

PROJECT TITLE : FIAT
PERIOD COVERED : JUNE 17 - AUGUST 17, 1981
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The objective of project FIAT is to determine the retention of certain components of cigarette smoke by filters, filter additives and adsorbents. In addition, new and traditional filter additives are investigated using new methods. This is done in order to obtain detailed information on adsorbents which could then be used by the Product Development Department.

FIRST SELECTION OF CIGARETTE SMOKE COMPONENTS TO BE DETERMINED

Inorganic gases : NO, CO, HCN.

Organic volatiles : Aldehydes : acetaldehyde, propanal,
butanal, 3-methyl-butanal, acrolein,
2-butenal

Ketones : acetone, ethylmethylketone,
butenone

Nitriles : acetonitrile, propionitrile

Furan : furan, silvan, 2.5-dimethylfuran

Others : benzene, toluene, isoprene

STUDY OF THE CORRELATION BETWEEN SPECIFIC SURFACES AND RETENTION

In order to know the influence of the specific surface of an adsorbent on the retention efficiency, 4 charcoals having surfaces in the range between 0 - 1800 m²/g were selected. These charcoals, which were of constant granulometry, were put in the cavity of an undiluted PSP filter where the cavity was also kept constant.

As the smoking parameters remain unchanged, we will be able to see the correlation between the surface and delivery of volatile components.

STUDY OF THE CORRELATION BETWEEN DILUTION AND THE ADSORBENT

Cigarette used : MAE

Trial 1 : Standard commercial MAE filter containing silicagel and charcoal, with dilution.

Trial 2 : Same filter as above without dilution.

Trial 3 : The adsorbent is replaced by pumice stone which has no effect on the volatile components of smoke. No dilution.

This study will give information on the effect of an adsorbent in conjunction with dilution in a filter. Following the results of this study, a system which will enable a small number of filters with specific adsorbents and dilutions to be prepared will be made in order to test adsorbents showing interesting properties. Experiments have been started.



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YVG/jig/AUGUST 25 1981

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